

CLAIMS

What is claimed is:

1. A bristle arrangement for use in a brush seal, the bristle arrangement comprising:
a plurality of bristles arranged in a length; and
a joint securing said plurality of bristles together;
wherein said joint extends along said length.
2. The bristle arrangement as recited in claim 1, wherein said joint is a weld joint.
3. The bristle arrangement as recited in claim 1, wherein said bristles each have opposed ends, and said joint is located at one of said opposed ends.
4. The bristle arrangement as recited in claim 1, wherein said plurality of bristles are metallic.
5. The bristle arrangement as recited in claim 1, wherein the bristle arrangement is subsequently combined with plates to form a brush seal.
6. The bristle arrangement as recited in claim 5, wherein a plurality of the bristle arrangements are subsequently combined with a plurality of said plates to form a multiple stage brush seal.

7. The bristle arrangement as recited in claim 1, wherein said length defines an arc.
8. The bristle arrangement as recited in claim 7, wherein said arc is a circle.
9. The bristle arrangement as recited in claim 7, wherein said arc has an outer diameter and an inner diameter, and said joint is located at said outer diameter or said inner diameter.
10. The bristle arrangement as recited in claim 1, wherein said joint is continuous.
11. The bristle arrangement as recited in claim 1, wherein said plurality of bristles are grouped in tufts, said joint securing said tufts together.
12. A method of making a bristle arrangement for a brush seal, comprising the steps of:
arranging a plurality of bristles along a length; and
joining said plurality of bristles along said length.
13. The method as recited in claim 12, wherein the joining step comprises welding.
14. The method as recited in claim 12, wherein the joining step occurs at an end of said bristles.
15. The method as recited in claim 12, wherein said plurality of bristles are metallic.

16. The method as recited in claim 12, further comprising the step of securing the bristle arrangement between plates to form a brush seal.
17. The method as recited in claim 12, wherein said length comprises an arc.
18. The method as recited in claim 17, wherein said arc is a circle.
19. The method as recited in claim 17, wherein the joining step occurs at an outer diameter or an inner diameter of said arc.
20. The method as recited in claim 17, wherein the joining step creates a continuous joint along said arc.
21. The method as recited in claim 12, wherein the arranging step comprises the steps of:
separating said plurality of bristles into groups;
joining said plurality of bristles within said groups to create tufts; and
arranging said tufts along said length.
22. An apparatus for making a bristle arrangement, comprising:
a base having a surface with an arrangement of guides thereon, said guides adapted to orient a plurality of tufts on said surface; and
a cover having a surface for receiving the tufts;

wherein said cover removably mounts to said base to sandwich said plurality of tufts between said base and said cover.

23. The apparatus as recited in claim 23, further comprising a shuttle, said shuttle removably receiving said base and having an arrangement of guides thereon corresponding to said guides on said base for orienting said tufts.

24. A method of making a brush seal having multiple stages, comprising the steps of:
providing plates and bristle arrangements;
creating a stack of said plates and bristle arrangements to define said multiple stages of said brush seal; and
joining said stack to create said brush seal.

25. The method as recited in claim 24, wherein said bristle arrangement includes:
a plurality of bristles arranged along a length; and
a joint extending along said length and securing said plurality of bristles together.

26. The method as recited in claim 25, wherein said plurality of bristles are arranged in an arc, and said joint extends along said arc.

27. The method as recited in claim 26, wherein said arc is a circle.

28. The method as recited in claim 25, wherein said joint extends continuously along said length.

29. The method as recited in claim 24, wherein the joining step comprises welding.

30. The method as recited in claim 29, wherein said plates include a windage cover.

31. The method as recited in claim 24, wherein said plates and said bristle arrangements are discrete before the stack creating step.